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Jose
See note
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To: Mr. J. E. Wickham Date: March 20, 1978

From: J. G. Nepomuceno

Subject: Proposed Modification in the Coal Strength Procedure

The effects of the protrusion of a cigarette's tipping paper beyond the dental dam in the coal strength procedure were investigated. Results indicated that cigarettes with their tipping papers protruding beyond the dams had higher coal removal than the same cigarettes positioned such that no tipping paper portion extended beyond the dental dams. Therefore, it is recommended that the cigarette depth setting procedure be adjusted so that no tipping papers protrude beyond the dams for all cigarettes. This will allow a more meaningful comparison of coal strength data between cigarettes with varying tipping paper lengths by eliminating the mechanistic effects of the rigid tipping paper (e.g., Marlboro 85 vs. Marlboro Lights 85).

The standard coal strength procedure has been to position the cigarettes on the plenum such that 55 millimeters of an 84-85 mm rod extends beyond the dental dam. For the cigarettes with tipping paper lengths greater than 30 millimeters, this arrangement leaves a portion of the tipping paper protruding beyond the dental dam. As a result, the mechanism of the impact imparted on these cigarettes is altered due to the rigidity of the tipping paper section. Consequently, coal removal values are found to be artificially high.

An experiment was set up to verify the above mentioned phenomena. Marlboro Lights 85, Winston Lights 85 and Kent Golden Lights Menthol were sampled from the same manufacturing month. A hundred cigarettes of each brand were tested for coal strength using the standard procedure where the tipping papers protruded. Another set of a hundred were tested in which the tipping papers of the cigarettes were recessed deeper beyond the dams, thus eliminating any protrusions. Winston 85's were used as a control where no tipping paper section protruded beyond the dam using either procedure. Results, tabulated in Table 1, show a decrease in coal removal for the set with no tipping paper protrusions.

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These investigations were precipitated by developments in the coal strength modeling studies. Discrepancies between the model predictions and experimental data for the cigarettes with long tipping papers led to the study of tipping paper protrusion effect on the coal strength mechanism.

Note that slight variations in the tipping paper lengths of the Marlboro Lights could explain the discrepancies which have been observed recently between Richmond and Louisville manufactures.

TABLE 1

Cigarette Brand	Tipping Paper Length (mm)	% Coal Removal Tipping Paper Protruding	% Coal Removal Tipping Paper Not Protruding
Marlboro Lights 85	31	74	49
Winston Lights 85	30	38	23
Kent Golden Lights Menthol 85	32	61	44
Winston 85 (Control)	25	19	20

JGN:gmm
cc: Mr. R. N. Thomson
Mr. R. M. Wiley
Mr. E. L. Watts

Is this correct? Based on statement on front page, it is not!

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